REMARKS

Claims 2, 5-7 and 9-15 have been canceled above. New claims 16-30 have been presented.

Claims 1, 3-4 and 8 were rejected under 35 USC 101 as being nonstatutory: "As per claim 1, the examiner notes that it is a method claim that amounts merely to an abstract idea, one of the judicial exceptions. ... Physical transformation is not produced for claim 1. Tangible result is also not produced for claim because the entire process merely results in IP datagram being copied from output buffer into storage and requesting a tangible adapter card for the network to send the IP datagram." Claim 1 has been amended to recite that the tangible network adapter card sends the IP datagram to the destination IP destination address via an external network, so a tangible result has been achieved. New claim 19 is in system form, and therefore, recites tangible components. New claim 23 is in program product form. Therefore, the rejection under 35 USC 101 should be withdrawn.

Claim 1 was also rejected based on obviousness-type double patenting based on US 7,111,303 to Macchiano et al. which is commonly assigned to International Business Machines Corporation. To expedite prosecution, a terminal disclaimer is enclosed.

Enclosed is a copy or a portion of a document entitled "z/VM V4.3.0 General Information" Section "4.1 Control Program (CP)" which was incorporated by reference on page 8 of the present patent application. This document describes a basic function of the control program to provide each user with an individual working environment known as a virtual machine, where each virtual machine shares the real processor function and other resources of a real computer.

Claims 1, 3-4 and 6-8 were rejected under 35 USC 103 based on US Patent Application 2003/0037178 by Vessey et al. and "Virtualizing I/O Devices on VMware Workstation's Hosted Virtual Machine Monitor ("VMware"). Applicants respectfully traverse this rejection based on the following:

Amended 1 recites a method for communicating from a first virtual machine to an external device. A virtual machine operating system base portion defines the first virtual machine and other virtual machines from a CPU and other real resources of a real computer. The base portion provides the first virtual machine and the other virtual machines with a share of the CPU. The base portion is common to all of the virtual machines and provides a communication pathway for communications from said first virtual machine to said other virtual machines. The first virtual machine writes an IP datagram to an output buffer allocated to the first virtual machine. The IP datagram comprises data and a destination IP address associated with the external device. The base portion copies the IP datagram from the output buffer into storage allocated to the base portion such that the IP datagram passes from the first virtual machine into the storage of the base portion without passing through any other virtual machines. The base portion identifies the destination IP address from the IP datagram and determines from the destination IP address that the destination IP address does not correspond to any of the other virtual machines or otherwise reside in the computer. In response, the base portion forwards the IP datagram to a tangible network adapter card coupled to an external network. The tangible network adapter card sends the IP datagram to the IP destination address via the external network.

Thus, amended claim 1 recites that the base portion defines the virtual machines from a CPU and other real resources of the computer, is common to all of the virtual machines and provides a communication pathway between the first virtual machine and the other virtual machines. The base portion identifies the destination IP address from the IP datagram and determines from the destination IP address that the destination IP address does not correspond to any of the other virtual machines or otherwise reside in the computer. In response, the base portion forwards the IP datagram to a tangible network adapter card coupled to an external network. There are at least two key differences of amended claim 1 over Vessey et al. First, as illustrated in Figures 22 and 23 of Vessey et al and described in paragraphs [0390 - 0401] of Vessey et al, the network communications interface 2212a of Vessey resides **in a logical partition 2202a** and determines where to forward the communication, either to an external network via a wire 2214a and a network driver 2216a or to a shared memory 160 via shared

memory driver 2218a. The logical partition 2202a is not a common base portion or anything equivalent to a common base portion. Second, as illustrated in Figures 22 and 23 of Vessey et al and described in paragraphs [0390 - 0401] of Vessey et al, the communication from logical partition 2202a to the external network via wire 2214a and network driver 2216a does not pass through the shared memory 160 or anything equivalent to a common base portion. In amended claim 1, the IP datagram passes from the first virtual machine to the tangible network adapter card via a common base portion. Thus, Vessey et al. requires multiple, costly instances of the network communications interface 2212a-n and network driver 2216a-n and multiple cumbersome wires 2214a-n (one for each LPAR), and bypasses the shared memory for communications to an external network. In contrast, the present invention as recited in amended claim 1 requires only a single instance of the base portion to manage communications from a virtual machine to an external network and to act as a hub for these communications as well as communications between different virtual machines in the same real computer. Therefore, Vessey et al. do not teach or even suggest the present invention as recited in amended claim 1.

There are at least two key differences between VMware and amended claim 1. First, amended claim 1 recites layer 3 communications based on IP addresses. In contrast, VMware discloses layer 2 communications based on MAC addresses. "The virtual NIC appears to the guest as a full-fledged PCI Ethernet controller, complete with its own MAC address. ... A virtual NCI that is bridged to a physical NIC is a true Ethernet bridge in the strictest sense. Its packets are sent on the wire with its own unique MAC address." VMware Section 2.2 first and second paragraphs. MAC addresses are used for layer 2 communications. Second, as illustrated in Figure 3 of VMware, VMware teaches a separate Virtual Machine Monitor ("VMM") for each virtual machine. The VMM defines the virtual machines, "In this architecture, the CPU virtualization is handled by the VMM." VMware section 2 third paragraph. The different VMMs of VMware are not "common" to all the virtual machines as recited in amended claim 1. In fact, each VMM of VMware is dedicated to a respective virtual machine. It would not have been obvious to combine Vessey et al. with VMware because Vessey et al. is layer 3/IP whereas VMware is layer 2/MAC addresses. These are different protocol layers in the OSI model with different purposes. Also, it would not have been obvious in view of Vessey et al. to modify VMware to handle layer 3/IP communications because a destination IP address in a layer 3 IP

communication is more difficult to uncover than a MAC address in a layer 2 communication. Such a modification would require the VMNet Driver of VMware to uncover and read the destination IP address in every IP datagram. Vessey et al. rely on the LPAR knowing the destination IP address of related IP packets to facilitate the switching in the LPAR to either the network driver 2216 or the shared memory driver 2218. Therefore, it would not have been obvious to perform the switching within a common base portion of IP datagrams originating from a virtual machine.

Claims 3-4, 8 and 16-18 depend on claim 1 and therefore, distinguish over the prior art for the same reasons that claim 1 distinguishes thereover.

Independent claim 19 distinguishes over the prior art for the same reasons that independent claim 1 distinguishes thereover. Claims 20-24 depend on claim 19.

Independent claim 25 distinguishes over the prior art for the same reasons that independent claim 1 distinguishes thereover. Claims 26-30 depend on claim 25.

Based on the foregoing, Applicant requests allowance of the present patent application as amended above.

Respectfully submitted,

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